

Patent Claims

1. A piston compressor (5) for compression of gaseous media in at least two working chambers, having a stepped piston (1) containing a first piston part (16) and at least one coaxially arranged second piston part (17), a first cylinder (7) for holding the first piston part (16) and for forming a first working chamber (21), and at least one second cylinder (8) for holding the second piston part (17) and for forming a second working chamber (22), with the second piston part (17) having a smaller diameter than the first piston part (16), with each of the at least two cylinders (16, 17) being closed by means of a plate (2, 9) with valve arrangements, and with the second piston part (17) being passed through an opening (20) in one of the plates (2), with the second piston part (17) being arranged at one end (27) of the first piston part (16) with the second piston part (17) forming the front end of the stepped piston (1), and with the second piston part (17) forming a cylindrical working chamber (22), and the first piston part (16) forming an annular working chamber (21).
2. The piston compressor as claimed in claim 1, characterized in that the plates (2, 9) are in the form of disks and bound the working chambers at the end.
3. The piston compressor as claimed in claim 1 or 2, characterized in that the plates (2, 9) are provided with inlet valves (3, 13) and outlet valves (4, 14).
4. The piston compressor as claimed in one of claims 1 to 3, characterized in that the valves (3, 4, 13, 14) are lamellar valves (31).

5. The piston compressor as claimed in one of claims 1 to 4, characterized in that the valves (3, 4, 13, 14) are tongue valves (32).
6. The piston compressor as claimed in one of claims 1 to 5, characterized in that the valves (3, 4, 13, 14) are individual valves with spring resetting (33).